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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re application of:

DAVID B. NITSCHKE ET AL.

Serial No.: 08/975,267

Filed: November 20, 1997

For: APPARATUS FOR FORMING HEATED GLASS SHEETS

Attorney Docket No.: GLT 1598 PUS



Group Art Unit: 1731

Examiner: J. Ruller

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**APPEAL BRIEF**

Box AF  
Assistant Commissioner for Patents  
Washington, D.C. 20231

Sir:

**I. REAL PARTY IN INTEREST**

The real party in interest in this appeal is Glasstech, Inc. which is the owner of the application by virtue of an assignment from the inventors recorded by the PTO on November 20, 1997 at Reel 8897, Frame 0091

**II. RELATED APPEALS AND INTERFERENCES**

There are no related appeals or interferences known to Appellant, the Appellant's legal representative, or assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

I hereby certify that this paper, including all enclosures referred to herein, is being deposited with the United States Postal Service as first-class mail, postage pre-paid, in an envelope addressed to: Box AF, Assistant Commissioner for Patents, Washington, D.C. 20231 on:

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Name of Person Signing

James A. Kushman  
Signature

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### **III. STATUS OF CLAIMS**

The application was originally filed with claims 1-21. In a response to a restriction requirement and an Office Action dated December 17, 1998, claims 1-3, 10, 13 and 16 were amended and claims 17-21 were canceled by an Amendment filed on March 22, 1999.

Claims 1, 5, 13, 15 and 16 were rejected in a Final Office Action dated May 6, 1999. Claims 2-4, 6-12 and 14 were objected to in the May 6, 1999 Final Office Action, presumably because they include allowable subject matter but depend from a rejected claim although neither the Final Office Action nor the earlier Office Action on December 17, 1998 specifically says that this is the case.

### **IV. STATUS OF AMENDMENTS**

An Amendment After Final is being filed concurrently with this Appeal Brief to correct a minor error noted in claim 16 in connection with the preparation of the Appeal Brief.

### **V. SUMMARY OF THE INVENTION**

The invention involves apparatus 26 for forming a heated glass sheet within a heated chamber 22 of a housing 20 as schematically illustrated in Figures 3-6 and described in the specification at page 12, lines 7-16. An upper mold support assembly 28 best illustrated in Figure 15 and described in the specification at page 12, lines 16-20 supports an upper mold 38 for movement between an upper position as shown in Figure 4 and a lower position as shown in Figure 5. Each forming cycle commences by the upper mold support assembly 28 moving the upper mold 38 downwardly to receive a heated glass sheet G from a heating conveyor 14 as shown in Figure 3 and described in the specification at page 14, lines 3-15. The heated glass sheet is secured to the upper mold by a vacuum and is then moved upwardly to the position of Figure 3.

The apparatus 26 also includes a lower mold shuttle 50 for supporting a lower mold 36 as described in the specification at page 13, lines 25-32 for movement at an elevation above the heating conveyor 14 between an idle position shown by solid line representation in Figure 2 spaced horizontally from the upper mold 38 and a use position below the upper mold as shown by phantom line representation in Figure 2. The upper mold 38 is then supporting the heated glass sheet 6 as shown in Figure 3.

A lower mold support assembly 60 of the apparatus as described in the specification at page 14, line 25, through page 15, line 3 and illustrated in Figure 12, has the lower mold 36 cyclically transferred thereto from the lower mold shuttle 50 in the use position to provide support thereof while permitting horizontal alignment of the lower mold with the upper mold 38 as necessary upon each cycle of downward movement of the upper mold for cooperation of the molds to form the heated glass sheet between the molds.

The lower mold support assembly 60 that supports the lower mold 36 for the horizontal alignment movement can be constructed as a water cooled ball 102 (Figure 11) at each corner or a water cooled pad (Figure 11a) at each corner as described in the specification at page 17, lines 6-25. Furthermore, the horizontal movement of the lower mold 38 for alignment of the molds is provided by a longitudinal alignment guide 122 and a pair of lateral alignment guides 124 as shown in Figures 7 and 8 and described in the specification at page 18, line 32 through page 19, line 25.

The apparatus 26 as described above is an improvement of the commercial system sold in accordance with the United States patent 4,661,141 Nitschke et al. wherein alignment between the lower and upper molds during each cycle is provided by movement of the upper mold which in actual construction is suspended by support chains. However, alignment guides utilized to align the upper mold with the lower mold in that construction also

exert a lateral force between the molds and such lateral force changes the pressing operation between the molds in a manner that affects the shape of the resultant formed glass sheet.

The present invention by cyclically transferring the lower mold 36 from the lower mold shuttle 50 to the lower mold support assembly 60 while in the use position allows the lower mold to move horizontally as necessary into alignment with the upper mold 38 upon downward movement of the upper mold, and there are no lateral forces that can cause binding between the molds and change the shape of the resultant formed glass sheet.

## **VI. ISSUES**

One issue in this appeal is whether claims 1 and 5 are obvious under 35 U.S.C. § 103(a) in view of patent 5,092,916 McMaster in view of patent 5,445,508 Kubo et al. This issue dominates the other issues discussed below.

Another issue in this appeal is whether claims 13 and 16 are obvious under 35 U.S.C. § 103(a) over McMaster in view of Kubo et al. and further in view of patent 4,470,838 McMaster et al.

Another issue in this appeal is whether claim 15 is obvious under 35 U.S.C. § 103(a) over McMaster in view of Kubo et al. in view of McMaster et al. and further in view of patent 5,643,615 Austin.

## **VII. GROUPING OF CLAIMS**

All of the rejected claims 1, 5, 13, 15 and 16 being appealed will be grouped together and thus stand or fall with each other. These rejected claims are shown in the Appendix to this Appeal Brief; claim 16 is shown with the change made in the Amendment After Final being filed concurrently.

### **VIII. ARGUMENT**

The Examiner's proposed combination of the McMaster and Kubo et al. patents to allege the obviousness of claim 1 and the other claims in combination with the other references is not believed to be correct for reasons discussed below.

In the McMaster patent, the upper mold support 26 is horizontally movable to provide alignment of the upper mold 32 with the lower mold 34 mounted on the mold shuttle 20. There is no horizontal movement of the lower mold support 20 to provide alignment thereof with the upper mold 32 in the manner involved with the present invention.

The Kubo et al. patent involves apparatus for setting a tire vulcanizing mold, which is respectfully submitted to be non-analogous art to the glass sheet forming apparatus involved with the present invention. More specifically, the vulcanizing mold is in no way related to glass sheet forming and thus the proposed combination of Kubo et al. with McMaster is not believed to be proper.

Nevertheless, even if one combines the disclosure of Kubo et al. with McMaster, there still is no provision of the claimed invention since Kubo et al. does not teach the support of a lower mold for horizontal movement for alignment with an upper mold during cyclical operation of the apparatus. Rather, the Kubo et al. patent as set forth in its title involves "setting" both the lower and upper molds 7 and 8 together into the proper location on a platen 6 of a tire vulcanizing apparatus at the beginning of a production job.

Even if one were to combine the disclosures of the McMaster and Kubo et al. patents, there would still be no provision of the present invention which involves a lower mold shuttle and a lower mold support assembly between which a lower mold is cyclically transferred to permit horizontal alignment of the lower mold with the upper mold as necessary upon each cycle of downward movement of the upper mold. As stated above, the McMaster


patent involves movement of the upper mold to provide alignment and the Kubo et al. patent involves an initial alignment of both the lower mold and upper mold with the tire vulcanizing apparatus upon its initial set up operation. Combining of the McMaster and Kubo et al. patents thus does not render obvious the present invention involving a lower mold shuttle and a lower mold support assembly between which a lower mold is cyclically transferred to permit horizontal alignment of the lower mold with the upper mold as necessary upon each cycle of operation.

The rejection of claims 13 and 16 over McMaster in view of Kubo et al. and further in view of McMaster et al. as well as the rejection of claim 15 over McMaster in view of Kubo et al. in view of McMaster et al. and further in view of Austin are also believed to be deficient for the same reasons discussed above in connection with the proposed combination of McMaster and Kubo et al. Specifically, the tire vulcanizing mold of Kubo et al. is submitted to be a non-analogous reference and, even if the combination of McMaster and Kubo et al. is made for purposes of argument, it is believed that there is no provision of the claimed invention involving a lower mold shuttle and a lower mold support assembly between which the lower mold is cyclically transferred to permit horizontal alignment of the lower mold with the upper mold as necessary upon each cycle of downward movement of the upper mold for the glass sheet forming.

For the reasons set forth above, the Board is asked to reverse the rejections of the appealed claims.

Respectfully submitted,

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Enclosure - Appendix